

Ignition Module 24 584 36-S

In 1995, we began using graphite insulator washers behind the ignition modules on Command 22 and 25 HP engines to help prevent heat transfer from the crankcase. They are no longer being used. This module can be used to service all Command twins with Smart Spark™ ignition, regardless of vintage.



WARNING: Accidental Starts!

Disabling engine. Accidental starting can cause severe injury or death. Before working on the engine or equipment, disable the engine as follows: 1) Disconnect the spark plug lead(s). 2) Disconnect negative (-) battery cable from battery.

The blower housing must be removed to install the ignition module. Proceed as follows:

1. Be sure the vehicle ignition switch is off and the parking brake is set.
2. Be sure the negative battery cable is disconnected from the battery.
3. Remove the two fuel pump mounting screws. See Figure 1.

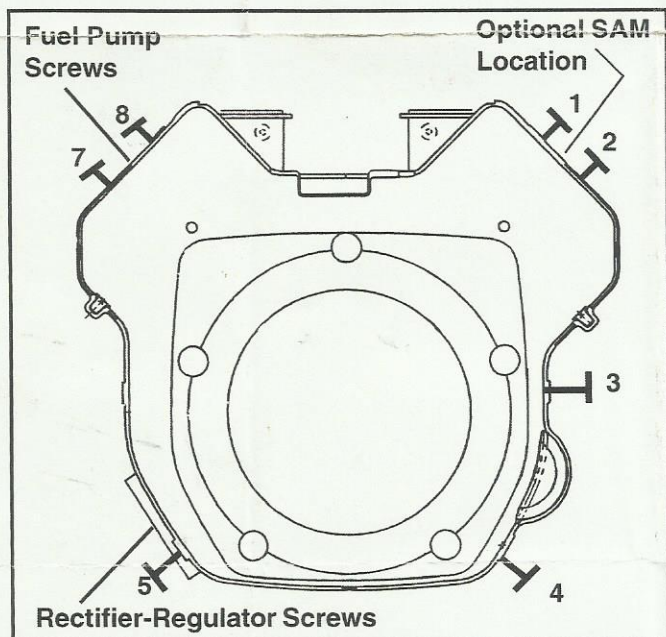


Figure 1. Blower Housing Hardware Positions.

4. Remove the two rectifier-regulator mounting screws. Pull the rectifier-regulator out of the blower housing.
5. If the SAM mounts to the blower housing, remove the mounting screws.
6. If the flywheel screen overlaps the blower housing, remove the screen. On some vertical shaft versions, it may also be necessary to loosen or remove the oil cooler, oil separator, and throttle cable bracket assembly.
7. Remove the eight mounting screws from the blower housing. Notice the notches where the spark plug leads come through the housing. Carefully slide the housing forward. If the SAM was mounted to the housing, direct the sheathed wiring harness out through the notched opening. On engines with a key switch, reach in behind the housing and unplug the connector from the switch. Remove the blower housing and set it aside.
8. Rotate the flywheel so the ignition magnet is away from the modules. Note the orientation of the module lead wires and corresponding terminals, then disconnect the leads.
9. Remove the mounting screws from the faulty/failed ignition module. As you remove the module, note whether there are graphite washers between the module and mounting bosses.
 - a. If washers are present, discard the washers and the bad module. Also remove the opposite ignition module, so those washers can be removed and discarded.
 - b. If no washers are present, discard the bad module.
 - c. If one module is found faulty on engines before Serial Number **2726520717**, check the vendor part number on the opposite module. If it is MA-2, MA-2A, or MA-2B, that module should also be replaced. If it is MA-2C or MA-2D, replace only the module that is faulty.

10. Mount the new ignition module to the bosses.
11. Pull the module away from the flywheel and tighten the mounting screws just enough to hold it in position. Rotate the flywheel to align the ignition magnet with the module. Insert a **0.30 mm (0.012 in.)** flat feeler gauge or shim stock between the module laminations and the magnet. Loosen the module screws and allow the magnet to draw the module down against the feeler gauge. Torque the mounting screws to **4.0 N·m (35 in. lb.)**.
12. Rotate the flywheel to release the feeler gauge blade and then rock the magnet back and forth beneath the module to check for interference. Recheck the air gap with a feeler gauge (**0.28/0.33 mm, 0.011/0.013 in.**) and readjust if necessary. Reconnect the lead wires.
13. If the opposite ignition module was removed to access and discard the washers, remount it to the bosses and repeat steps 11 and 12 to reset the air gap.
14. Using the reverse of steps 3-7, reinstall the blower housing and all other parts that were removed.
15. Reconnect the spark plug leads and negative (-) battery cable.
16. Test run the engine/equipment.

Spark Advance Module (SAM) 24 584 09-S

This spark advance module (SAM) is now being used as the service replacement for both 24 584 04 and 24 584 05. It uses a red lead in the main engine wiring harness for its power source, whereas the 24 584 04 had a longer power source lead which connected directly to the starter solenoid. To install this module, the blower housing must be removed. Proceed as follows:



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1. Be sure the vehicle ignition switch is off and the parking brake is set.
2. Remove the air cleaner cover and invert it to serve as a tray for hardware to be removed.
3. Remove the two fuel pump mounting screws. See Figure 1.
6. If the flywheel screen overlaps the blower housing, remove the screen. On some vertical shaft versions, it may also be necessary to loosen or remove the oil cooler, oil separator, and throttle cable bracket assembly.
7. Remove the eight mounting screws from the blower housing. Notice the notches where the spark plug leads come through the housing.

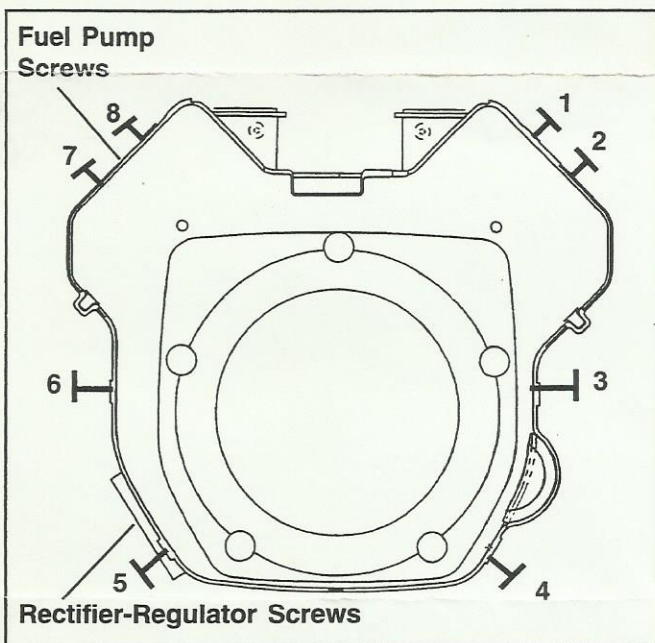


Figure 1. Blower Housing Hardware Positions.

4. Remove the two rectifier-regulator mounting screws. Pull the rectifier-regulator out of the blower housing.
5. If the SAM mounts to the blower housing, remove the mounting screws.
8. Move the blower housing forward to access the wiring harness which is attached to the intake manifold.
9. Remove the old SAM, paying special attention to the colors of the leads and where they were removed.
10. When using this module to replace a 24 584 05, the wiring connections will be the same as original. When using it to replace a 24 584 04, you will need to locate the red source lead in the main engine harness which has an open, unused female terminal on the end. For a 24 584 04 module with a date code below 2104, the footnote in the parts manual instructed you to also order adapter harness 24 176 39 (supercedes to 24 755 56-S) along with the module. If the adapter harness is required, refer to its instructions at this point.
11. Plug the red lead from the new module into the open red lead in the harness. All other connections will be the same as original.
12. If the SAM mounts to the side baffle, install it at this time.